UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/723,481	11/28/2000	Dave McDysan	RIC00042	7586

25537 7590 06/02/2011

VERIZON
PATENT MANAGEMENT GROUP
1320 North Court House Road
9th Floor
ARLINGTON, VA 22201-2909

EXAMINER	
BATES, KEVIN T	

ART UNIT	PAPER NUMBER
2456	

NOTIFICATION DATE	DELIVERY MODE
06/02/2011	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patents@verizon.com

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte DAVE MCDYSAN, HOWARD LEE THOMAS, and LEI YAO

Appeal 2009-008204
Application 09/723,481
Technology Center 2400

Before JOSEPH L. DIXON, JAY P. LUCAS,
and THU A. DANG, *Administrative Patent Judges*.

DANG, *Administrative Patent Judge*.

DECISION ON APPEAL

I. STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134(a) from a Final Rejection of claims 1-14, 16-38, and 40-50. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

A. INVENTION

Appellants' invention relates to distributing the function of a conventional monolithic router architecture among three logical modules: a programmable access device (PAD), an external processor, and an access router for a more scalable design (Fig. 2; Spec. 10:19-23), wherein the PAD includes a packet header filter which receives an incoming packet from a customer router, distinguishes between message types, and forwards messages to an external processor or along a forwarding path defined by a forwarding table to another processor (Spec. 13:17-30;14:29-15:5).

B. ILLUSTRATIVE CLAIM

Claim 1 is exemplary:

> 1. A programmable access device for use in a network access system, said programmable access device comprising:
>
> first and second network interfaces through which packets are communicated with a network;
>
> a packet header filter and a forwarding table, wherein the forwarding table is utilized to forward packets between the first and second network interfaces, and wherein said packet header filter identifies messages received at one of the first and second network interfaces on which policy-based services are to be implemented and passes identified messages via a message interface to an external processor included in said network

access system for implementation of the policy-based services by the external processor, wherein said packet header filter passes all other received messages through the packet header filter to an other processor; and

a control interface through which said packet header filter and said forwarding table are programmed.

C. REJECTION

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Gai	US 6,167,445	Dec. 26, 2000 (filed on Oct. 26, 1998)
Natarajan	US 6,505,244 B1	Jan. 07, 2003 (filed on Jun. 29, 1999)
Albert	US 6,606,316 B1	Aug. 12, 2003 (filed on Jul. 02, 1999)
Amara	US 6,674,743 B1	Jan. 06, 2004 (filed on Dec. 30, 1999)

Claims 1, 2, 4, 7, 16, 22-27, 29, 32, 40, and 46-49 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Albert.

Claims 19-21 and 43-45 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Albert.

Claims 11 and 36 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Albert in view of Natarajan.

Claims 3 and 28 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Albert in view of Amara.

Claims 5-10, 12-14, 17, 18, 30, 31, 33-35, 37, 38, 41, and 42 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Albert in view of Gai.

Claim 50 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Albert in view of Gai and Amara.

II. ISSUES

The issues are whether the Examiner has erred in determining that:

1. Albert discloses "first and second network interfaces through which packets are communicated with a network" (claim 1). In particular, the issue turns on whether Albert discloses a second network interface that transmits packets to another network.

2. Albert discloses "a control interface through which said packet header filter and said forwarding table are programmed" (claim 1). In particular, the issue turns on whether Albert discloses that a service manager acting as an external processor instructs the packet header filter and forwarding table within the forwarding agent through a control interface.

III. FINDINGS OF FACT

The following Findings of Fact (FF) are shown by a preponderance of the evidence.

The Invention

1. According to Appellants, a distributed network access system 31 includes an external processor 42, a programmable access device (PAD) 40, and an access router 44 and couples to an access network (Fig. 2; Spec. 10:5-28), wherein the PAD 40 includes a forwarding table 86 that maintains entries for each forwarding path and corresponding output port 88 through which a packet header filter 80 forwards the packet toward an access router

44 (external to the PAD 40) to an access network (Figs. 2 and 3; Spec. 14:29-15:5), and a first and second network interface within PAD 40 couple to the customer router 32 and an access network (Fig. 3; Spec. 5:5-8).

2. The external processor 42 configures the packet header filter 80 and the forwarding table 86 by invoking commands or scripts understood by the control interface 104 (Figs. 2 and 3; Spec. 17:19-25).

Albert

3. Albert is directed to a system and method that gather statistics about packets in a distributed network service environment (Abstract).

4. Packets are sent from a client 201-203 through a network 210 to a network device including at least one forwarding agent 231 and at least one service manager 241 (Fig. 2A; col. 6, ll. 15-44). A group of servers 220 receives the forwarded packets from the network device (*id.*).

5. The forwarding agents, 231 and 232, perform packet processing which may include simply routing the packet, gathering statistics about the packet, sending the packet to a service manager, sending a notification that the packet has been seen to a service manager, modifying the packet, or using a special method to send the packet to a destination other than the destination specified by the destination IP address included in the packet header (col. 6, ll. 44-57). The service managers, 241 and 242, send specific instructions to each of the forwarding agents, 231 and 232, detailing how certain flows of packets are to be processed (*id.*).

6. A service manager interface 258 within forwarding agent 250 allows packets to be sent to and received from a service manager (Fig. 2B; col. 9, ll. 37-41). The forwarding agents also receive fixed and wildcard

affinities sent by a service manager through this service manager interface (*id.*).

7. The service manager uses fixed affinities to provide specific instructions to the forwarding agents detailing the forwarding destination of packets for each load balanced flow (col. 8, ll. 55-62). Wildcard affinities are also sent by the service manager, providing general instructions to each forwarding agent that specify which new flows which interest the service manager (col. 8, ll. 62-66; col. 16, l. 53-col. 17, l. 15). These fixed and wildcard affinities are updated by the service manager (col. 18, ll. 23-65).

8. Server 222 may communicate with network 210 through either of the forwarding agents, server 221 communicates with network 210 exclusively through forwarding agent 231, and server 223 communicates with network 210 exclusively through forwarding agent 232 (Fig. 2A; col. 6, ll. 30-35).

IV. ANALYSIS

35 U.S.C. § 102(e)

Claims 1, 2, 4, 7, 16, 22-27, 29, 32, 40, and 46-49

Appellants provide similar arguments with respect to independent claims 1and 26 (App. Br. 8-11). Accordingly, we select claim 1 as being representative of the claims. *See* 37 C.F.R. § 41.37(c)(1)(vii).

Appellants contend that "there is no 'second network interface' in Albert" because "there is no indication that servers 220 and/or service managers 241 and 242 are in a different 'network' from forwarding agent 231" (App. Br. 9; emphasis omitted). Appellants further assert that "there is no indication that the service manager itself actually 'programs' the

forwarding agent and a packet header filter" (App. Br. 10). According to Appellants, "the service manager (241 or 242) of Albert cannot be both the claimed 'external processor' and the claimed 'control interface'" (App. Br. 11).

The Examiner, however, finds that Albert teaches a second interface coupled to a network even though "[t]here is no … network cloud between the forwarding agents and the servers [since] the disclosure shows how these elements are actually connected (Ans. 15). The Examiner notes that "there is no need to describe [the network] as a network cloud because there is no need for abstraction" (Ans.15).

The Examiner also finds that the "ordinary meaning of programming basically comprises any form of altering the way the forwarding agent and the packet header filter operates" (Ans. 16). Accordingly, the Examiner finds that (1) "Albert teaches that the packet header filter in the forwarding agent operates by using wildcard affinities to identify and filter packets to the proper destination" (*id.*) and (2) "Albert teaches the service manager updat[es] the wildcard affinities which alters the operation of the packet filter of the forwarding agent" (Ans. 17); consequently, Albert teaches "programming the header packet filter in the forwarding agent" (*id.*).

The Examiner notes that he "actually maps the service manager (241 or 242) as the external processor of the claimed invention" and the "control interface [as] an interface of the forwarding agent (231 or 232) which interfaces and receives messages from the service manager" (*id.*). As a result, the Examiner finds that "the forwarding agent, as mapped to the programmable access device, receives updates from the external processor through said control interface" as required by the claim language (*id.*).

To determine whether Albert teaches "first and second network interfaces through which packets are communicated with a network" and "a control interface through which said packet header filter and said forwarding table are programmed" of claim 1, we give the claim its broadest reasonable interpretation consistent with the Specification. *See In re Morris*, 127 F.3d 1048, 1054 (Fed. Cir. 1997). However, we will not read limitations from the Specification into the claims. *In re Van Geuns*, 988 F.2d 1181, 1184 (Fed. Cir. 1993).

Claim 1 does not place any limitation on what "a network" entails, includes, or presents other than that packets are sent through the second network interface of the programmable access device (PAD) for transmission to a network. According to Appellants' Specification, a distributed network access system, including an external processor, a programmable access device, and an access router, couples to an access network (FF 1). Thus, we agree with the Examiner's interpretation that "network," under its broadest reasonable interpretation as any "series of routers, switches, ISPs, DNS servers, DCHP servers, plus many more network elements that make up almost every LAN or WAN network," is consistent with the Specification as specifically defined in claim 1 (Ans. 15).

Similarly, claim 1 does not place any limitation on what "programmed" entails, includes, or presents other than that the packet header filter and forwarding table are programmed through the control interface. According to Appellants' Specification, the external processor configures the packet header filter and the forwarding table by invoking commands or scripts understood by the control interface (FF 2). Thus, we agree with the Examiner that "programmed," under its broadest reasonable interpretation as

"any form of altering the way the forwarding agent and the packet header filter operate," is consistent with the Specification as specifically defined in claim 1 (Ans. 16).

Albert is directed to a system and method for gathering statistics about packets in a distributed network service environment (FF 3). Packets are sent from a client through a first network to a network device including at least one forwarding agent and at least one service manager (FF 4). A group of servers receives the forwarded packets from the network device (*id.*). Specifically, the forwarding agent performs packet processing which may include but is not limited to routing the packet, sending the packet to a service manager, modifying the packet, or using a special method to send the packet to a destination other than the destination specified by the destination IP address included in the packet header (FF 5).

The service managers send specific instructions to each of the forwarding agents detailing how certain flows of packets are to be processed (*id.*). A service manager interface is included within each forwarding agent that allows packets to be sent to and received from the service manager (FF 6). In addition, the service manager interface allows service managers to send fixed and wildcard affinities to the forwarding agent (*id.*). These fixed and wildcard affinities serve to define the operation of the forwarding agent, instructing the forwarding agent how to identify and filter packets to the proper destination (FF 7). Furthermore, the service manager updates these fixed and wildcard affinities (*id.*).

We find that Albert discloses a network connection between the servers and forwarding agents (FF 8) and agree with the Examiner's finding that "there must also be an interface within the agent to that network, thus a

second network interface" (Ans. 16). Since the group of servers is directly connected to forwarding agents (FF 4), we also agree with the Examiner's finding that the group of servers represent a network that couples to the second network interface as required by the claim (Ans. 16). We find no error with the Examiner's finding that there is no need to describe the network as a network cloud for abstraction since Albert discloses the system and connections (Ans. 15; FF4).

We find further that, since the forwarding agent performs packet processing, the forwarding agent includes a packet header filter (FF 5). We also find that the service manager interface serves as a control interface (FF 6). Accordingly, since the Examiner relies upon the service manager to teach the external processor and the forwarding agent to teach both the packet header filter and the control interface, we agree with the Examiner that "this interpretation meets the claimed invention (Ans. 17).

Since the service manager updates the fixed and wildcard affinities sent to the forwarding agents to control how they operate, we further agree with the Examiner that Albert teaches that the service manager performs the function of "programming the header packet filter [and forwarding table] in the forwarding agent" through the service manager interface within the forwarding agent (Ans.17; FF 6).

Accordingly, we find no error in the Examiner's finding that Albert discloses the claimed limitations of representative claim 1 and claims falling therewith.

Thus, we find that Appellants have not shown that the Examiner erred in rejecting representative claim 1, independent claim 26 falling therewith,

and claims 2, 4, 7, 16, 22-25, 27, 29, 32, 40, and 46-49 depending respectively therefrom under 35 U.S.C. § 102(e) over Albert.

35 U.S.C. § 103(a)

Claims 3, 5-14, 17-21, 28, 30, 31, 33-38, 41-45, and50

With respect to claims 3, 5-14, 17-21, 28, 30, 31, 33-38, 41-45, and 50, Appellants repeat the arguments set forth for claims 1 and 26 (App. Br. 11-13). As discussed above with respect to independent claims 1 and 26, we find no deficiencies in the Examiner's finding that Albert discloses such features.

Thus, we conclude that the Examiner did not err in rejecting claims 3, 5-14, 17-21, 28, 30, 31, 33-38, and 41-45 depending respectively from claims 1 and 26 under 35 U.S.C. § 103(a) over Albert in view of Natarajan, Amara, and Gai and in rejecting claim 50 under 35 U.S.C. § 103(a) over Albert in view of Gai and Amara.

V. CONCLUSION AND DECISION

The Examiner's rejection of claims 1, 2, 4, 7, 16, 22-27, 29, 32, 40, and 46-49 under 35 U.S.C. § 102(e) and claims 3, 5-14, 17-21, 28, 30, 31, 33-38, 41-45, and 50 under 35 U.S.C. § 103(a) is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

peb